RESEARCH AND DEVELOPMENT, NEUCHATEL - QUARTERLY REPORT

DIVISION : RESEARCH

SUBJECT TITLE : ANALYTICAL INVESTIGATIONS

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WRITTEN BY : Murray-M. (MUM), Genoud-Y. (YVG), Lauper-G. (GLA), Moor-Ph. (PHM), Renaud-J.M. (JMR)

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PACKAGING ANALYSIS

N-methyl pyrolidone and 2-ethyl hexanol were found on MLF HL blanks from Interdruck [1,2,3] (PHM/GLA).

A further sample of aluminium foil produced in Brazil was received for analysis [4]. As with the previous sample [5] aromatic hydrocarbons were detected. The use of a better quality gliding medium was suggested [6] (PHM/GLA).

Closed loop stripping analysis (CLSA) of 4 Simcastor samples showed no difference from the reference sample [7] (GLA).

A bundle paper with a new varnish from HIFI press was compared with standard material. Both versions were similar and contained much higher amounts of 1-ethoxy-2-propanol than MLF HL blanks [8] (GLA).

Printed blanks from Rentsch (MLZ-CLA) were analysed by headspace gas chromatography (HS-GC). The principal residual solvent was 1-ethoxy-2-propanol which is normally used as a retardant. The use of smaller amounts of this solvent was suggested [9] (GLA).

New and standard latex and board samples ex Dow and Iggesund were examined. The new latex gave a board with lower odorant residues. Acceptance was recommended [10] (GLA).

Subjective evaluation of PM Filter Kings Gold packed in PMB 260 Gold showed a taste difference relative to the standard MLB 160. Analysis showed a higher residual solvent concentration on the PMB 260 bundle paper [11,12] (GLA/PHM). Further printing trials with a new ink and varnish system reduced residual solvent levels by a factor of six [13,14] (GLA).

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During qualification tests for new boards for TAKO, residual printing solvents were analysed. The TAKO boards retained larger amounts of gravure printing solvents than the standard Iggesund board. GC-sniffing showed considerable differences between the boards. Smoking panel evaluation of the TAKO board was recommended [15,16] (GLA/PHM).

Polylaupen carried out printing trials with a target of less than 10 mg/m2 1-ethoxy-2-propanol. The target was not reached and further trials were recommended [17] (GLA).

Varnish samples from different printers were examined by CLSA. A wide variety of aromatic solvents were found. Care was suggested when changing varnishes [18] (GLA).

Increased brilliance was required on Merit HL blanks. Comparison of solvent + water-based varnish and water only varnishes showed a bad smell on the solvent + water product. Analysis showed a high ethyl acetate concentration. Acceptance of the water-based product was recommended [19] (GLA).

Analysis of MLB IT bundle paper with different levels of anti-slip additive showed that residual solvent concentration paralleled the antislip concentration. All samples were within tolerances [20,21] (GLA).

During printing trials residual solvent concentrations were requested for various material samples from Aticarta Graphia and printed inner frames were analysed [24] (GLA). The Gold printed inner frames exceeded PM toluene tolerances and on one sample the recommended ethyl acetate level. All other samples met PM tolerances [25] (GLA).

Raffles UK encountered customer complaints with a promotion including a 20 p coin attached to the cigarette packet with adhesive. Analysis showed that the acrylic adhesive transferred to the cigarette filter [27,27] (GLA/PHM).

IPACOLL / GLUE AP 430/4

This glue was analysed at the request of QA. GC-MS showed the presence of triacetin, di-isobutylphtalate and methyl paraben [28,29] (PHM).

PROJECT EUROP

At the request of Microbiology isovaleric acid was analysed as a tracer for spoilage in RL feedstock water extract. 19 samples were analysed [30,31,32] (YVG/ZWA).

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MENTHOL SUPPLIERS

Menthol samples from two new potential suppliers were checked for purity and conformity with specifications [33,34] (YVG/ZWA).

FILTER MAKER RESIDUE

A residue was found in the triacetin spraying compartment of a KDF2 filter maker. Analysis showed the material to be a polyvinyl acetate polymer with solubility properties similar to a PVA emulsion glue [35,36] (PHM).

PROJECT PICASSO

Seven dust samples were analysed for oxalate and potassium sorbate [37,38,39] (EVM/ZWA).

SEAM GLUE SWIFT K 5675 D

The presence of diethylphthalate was suspected by QA. This was confirmed by GC-MS [40,41] (PHM).

TOBACCO DUST/DEG

DEG and TEG were not confirmed by GC-MS/SIM on two tobacco dust samples [42,43] (PHM).

BLOCK LICORICE EX MONOZZI

Incoming inspection at PMH detected some fat at the licorice block surface. The suppliers claimed this to be a hydrogenated palm oil. IR spectra of this material, palm oil samples ex Menozzi and literature spectra were identical [44,45] (PHM).

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STEEL ON STEEL EMBOSSING

QC Silvertown requested identification of a deposit found during embossing of an aluminium inner foil. Analysis of the foil, varnish and deposit indicated that the deposit contained some grease, some iron and dust [46,47,48,49] (PHM).

TOBACCO BLEND STORAGE

A tobacco blend at PM Munich was observed to have an off odor after 12 days storage. GC sniffing after headspace concentration on Tenax showed greater "acid odor" peaks on the 12 day old sample compared to a freshly prepared batch [50,51] (GLA/YVG). The 12 day old sample had a greatly decreased ethanol concentration.

FILTER RESIDUE SILVERTOWN

Examination of material found in a filter transfer device in Silvertown indicated about 50% glue with the rest cellulose acetate fibres contaminated by iron dust [52] (PHM).

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